EA Form R 1/2007

Montana Department of Natural Resources and Conservation
Water Resources Division
Water Rights Bureau

ENVIRONMENTAL ASSESSMENT
For Routine Actions with Limited Environmental Impact

Part I. Proposed Action Description

1. *Applicant/Contact name and address*: Kelly and Suzanne Bergstedt
33847 County Rd 111
Savage, MT 59262

2. *Type of action*: Application for Beneficial Water Use Permit No. 42M 30158702

3. *Water source name*: Groundwater

4. *Location affected by project*: Section 5, T20N, R58E, Richland County.

5. *Narrative summary of the proposed project, purpose, action to be taken, and benefits*:

The Applicants propose to divert groundwater by means of a well completed in the Lower Yellowstone Buried Channel Aquifer (LYBCA). The well is located in the SWSWNW Section 5, T20N R58E, Richland County. The Applicants propose to divert water from April 1 to October 31 at 970 GPM up to 397 AF per year. The purpose is to irrigate crops on 198.4 acres with two center pivots. Pivot 1 will irrigate 131.4 acres in NW Section 5, and Pivot 2 67 acres in W2SW Section 5, T20N R58E, Richland County.

The DNRC shall issue a water use permit if an applicant proves the criteria in §85-2-311 MCA are met.

6. *Agencies consulted during preparation of the Environmental Assessment:*

Montana Department of Natural Resources and Conservation (DNRC)
Montana Department of Environmental Quality website
Montana Department of Fish, Wildlife and Parks
Montana Natural Heritage Program website
USDA Web Soil Survey
National Wetlands Inventory website

Part II. Environmental Review

1. Environmental Impact Checklist:

PHYSICAL ENVIRONMENT

WATER QUANTITY, QUALITY AND DISTRIBUTION

Water quantity *- Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.*

The Department showed that both the Yellowstone River and Burns Creek are hydraulically connected to the proposed well's source aquifer. The Department determined that this groundwater appropriation will deplete a reach of water from Burns Creek downstream of the western edge of NE quarter of Section 33 in T19N, R57 E, at a rate of 2.8 AF each month. The Department also determined that this groundwater appropriation will deplete water from the Yellowstone River, at an average rate of 20.4 AF each month, starting downstream of its confluence with Burns Creek. The amount of water to be depleted by the proposed project is both physically and legally available in all months.

Burns Creek and the affected reach of the Yellowstone River are not identified as a chronically or periodically dewatered stream by the Montana Department of Fish, Wildlife and Parks. The FWP has a water reservation on this portion of the Yellowstone River that ranges from 2,670 CFS in August to 25,140 CFS in June to maintain instream flow for fisheries.

Determination: This groundwater development is not expected to have significant impacts.

Water quality *- Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.*

The Lower Yellowstone River is listed on the 2020 Montana 303(d) list as fully supporting agriculture, drinking water, and primary contact recreation, while not fully supporting aquatic life. Causes of impairment to aquatic life are alternation of riparian vegetation cover, fish passage barrier, sedimentation, total dissolved solids, and chemical level. Probable sources of the impairment are crop production, impacts from hydro flow regulation, rangeland grazing, and streambank modification.

Burns Creek is listed on the 2020 Montana 303(d) list as not fully supporting aquatic life or recreation. Agriculture and drinking water are not assigned as beneficial uses. Probably causes of the impairment are the impacts from crop production, fish passage barrier, hydro flow modification, and chemical levels.

Determination: This groundwater development is not expected to have significant impacts.

Groundwater *- Assess if the proposed project impacts ground water quality or supply. If this is a groundwater appropriation, assess if it could impact adjacent surface water flows.*

The production well was drilled on August 15, 2022. Total depth of the well is 290 feet with a static water level at 141 feet below the top of casing. Modeling analysis by the Department shows that there is groundwater physically available (5,305 AF/year) and legally available (1,271 AF) for appropriation in the amount requested during the period of diversion. If the proposed appropriation (397AF) is approved, 874 AF remains in the LYBCA aquifer.

Modeling also predicts that, after pumping for five years, drawdown ≥1 foot would extend 1,900 feet from the production well. There is no existing water right within this contour. The Department has also determined that hydraulically connected surface waters of the Yellowstone River and Burns Creek is physically and legally available for the quantity and period of use in which the depletions will occur.

Based on these findings, there will be no significant impact to the groundwater aquifer or hydraulically connected surface waters.

Determination: This groundwater development is not expected to have significant impacts.

DIVERSION WORKS - *Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.*

Water will be diverted by a 12-inch well 290 feet deep, with a static water level at 141 ft. The well is equipped with a Gould 9RCHC 2-stage submersible pump with 125hp electric motor. Water is conveyed to two center pivots via 10-inch underground pipelines. Pivot 1 covers 131.4 acres and Pivot 2 covers 67 acres.

The pivots are Nelson R3030 rotators on hose drops with 5-ft ground clearance. The irrigation system is designed to run one pivot at a time. The pivot sends a signal via buried wire to turn the pump on or off. A Montana licensed well driller, Agri Industries, designed and will construct the diversion and pivot structures.

The center pivots are 4 miles west of the Yellowstone River and 10 miles north of Burns Creek. The project will not alter stream channel and stream flow, nor impact riparian areas.

Determination: This groundwater development is not expected to have significant impacts.

UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES

Endangered and threatened species - *Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants or aquatic species or any "species of special concern," or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or "species of special concern."*

The major land use in the project site has been dry land farming. According to the Montana Natural Heritage Program website, the Bureau of Land Management (BLM) lists Eastern Red Bat, Hoary Bat, Veery, Spiny Softshell, Snapping Turtle, Sturgeon Chub, Paddlefish, and Sauger as Sensitive species. Both BLM and the U.S. Fish & Wildlife Service list the Whooping Crane

and the Pallid Sturgeon as Endangered; BLM also lists the Least Tern as Endangered. There are no federally-listed plants species within the project area.

Whooping Crane
The federally endangered Whooping Crane migrate between Canada and Texas. They occasionally cross the eastern portion of Montana, although their main migratory corridor is found to the east in the Dakotas. While the species was close to extinction during the early and mid-1900s, intensive management has helped to begin the recovery process. The species is still very rare across its range and at risk of extinction. Whooping Crane has a verified occurrence in Richland County.

Least Tern
The Least Tern prefers unvegetated sand-pebble beaches and islands of large reservoirs and rivers in northeastern and southeastern Montana; specifically, the Yellowstone River and the Missouri River systems.

Pallid Sturgeon
The Pallid Sturgeon is currently listed as "At High Risk" in Montana due to extremely limited and/or rapidly declining population numbers, range and/or habitat, making it highly vulnerable to global extinction or extirpation in the state. The pallid sturgeon is one of the rarest fishes in North America and was federally listed as endangered in 1990. The Pallid Sturgeon has been declining during at least the past 50 years with only about 200 adults remaining in the upper Missouri River and limited natural reproduction.

Determination: This groundwater development is not expected to have significant impacts.

Wetlands *- Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.*

According to the National Wetlands Inventory website, there are no wetlands in or near the proposed place of use and point of diversion.

Determination: This groundwater development is not expected to have significant impacts.

Ponds *- For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.*

Determination: Not applicable.

GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE *- Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.*

According to the USDA Web Soil Survey, the soils within the 198 acres to be irrigated are predominantly Williams Loam. The Williams unit consists of deep, well drained clay loam on glaciated uplands with 0 to 4 percent slope. Permeability is moderately slow and available water capacity is high. Surface runoff is slow to medium. The hazard for erosion is slight to moderate. This soil is classified as nonsaline to slightly saline (0.0 to 2.0 mmhos/cm); prime farmland if

irrigated. The addition of two center pivots should improve the vegetative cover, soil organic matter, and reduce the potential for soil erosion. No permanent degradation to soil quality, stability or moisture content is anticipated.

Determination: This groundwater development is not expected to have significant impacts.

VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS - *Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.*

The fields proposed for center pivots has been dryland-farmed for at least 60 years. The addition of two center pivots should improve the vegetative cover and reduce weeds. The Applicants propose to rotate wheat or hay barley with corn or alfalfa. No plants are listed as endangered or threaten by the USFWS in the project rea. While disturbance from the installation of irrigation equipment would invite weed invasion, farming itself will decrease weeds. The control of noxious weeds is the responsibility of the property owner.

Determination: This groundwater development is not expected to have significant impacts.

AIR QUALITY - *Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.*

During construction, a normal amount of dust is expected. However, it should not present a risk to vegetation or animals. Irrigated crops will improve vegetation cover and reduce soil erosion by wind, thereby improving air quality during the growing season.

Determination: This groundwater development is not expected to have significant impacts.

HISTORICAL AND ARCHEOLOGICAL SITES - *Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project.*

***Determination*:** NA-Project not located on State or Federal Lands.

DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY - *Assess any other impacts on environmental resources of land, water and energy not already addressed.*

Determination: No additional impacts on other environmental resources were identified.

HUMAN ENVIRONMENT

LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS - *Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.*

Determination: There are no known local environmental plans or goals in the area.

ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES - *Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.*

Determination: The project is located in rural, private land that has historically been used for agriculture. It will not have an impact on recreation or wilderness activities.

HUMAN HEALTH - *Assess whether the proposed project impacts on human health.*

Determination: This project will have no impact on human health.

PRIVATE PROPERTY - *Assess whether there are any government regulatory impacts on private property rights.*
*Yes___ No_**X** If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights*.

Determination: There are no additional governmental regulatory impacts on private property rights associated with this application.

OTHER HUMAN ENVIRONMENTAL ISSUES - *For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.*

Impacts on:

(a) *Cultural uniqueness and diversity?* No significant impact

(*b)* *Local and state tax base and tax revenues?* No significant impact

(c) *Existing land uses?* No significant impact

(*d)* *Quantity and distribution of employment?* No significant impact

(e) *Distribution and density of population and housing?* No significant impact

(f) *Demands for government services?* No significant impact

(g) *Industrial and commercial activity?* No significant impact

(h) *Utilities?* No significant impact

(i) *Transportation?* No significant impact

(j) *Safety?* No significant impact

(k) *Other appropriate social and economic circumstances?* No significant impact

2. *Secondary and cumulative impacts on the physical environment and human population:*

Secondary Impacts: This assessment does not indicate possible secondary impacts on the physical environment and/or the local human population.

Cumulative Impacts: This assessment does not indicate possible cumulative impacts on the physical environment and/or the local human population.

3. ***Describe any mitigation/stipulation measures:*** N/A

4. ***Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:*** An alternative analysis of the project identifies a no-action alternative to the construction of a well and center pivots for irrigation. This alternative would not incur any direct impacts that are typically associated with irrigation. Under the no-action alternative, the Applicants would not be able to use sprinkler irrigation to grow crops.

PART III. Conclusion

1. ***Preferred Alternative:*** Issue a water use permit if the Applicants prove the criteria in §85-2-311, MCA are met.

2 Comments and Responses

4. ***Finding:***
*Yes___ No_**X**_ Based on the significance criteria evaluated in this EA, is an EIS required?*

If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action: No significant impacts have been identified; therefore, an EIS is not necessary.

Name of person(s) responsible for preparation of EA:

Name: Lih-An Yang
Title: Water Resource Specialist
Date: December 16, 2022